

University of Nebraska - Lincoln

DigitalCommons@University of Nebraska - Lincoln

Historical Materials from University of
Nebraska-Lincoln Extension

Extension

1995

RP95-568 Alternative Financial/Organizational Structures of Farm and Agribusiness Firms

Michael Boehlje
Purdue University

David Lins
University of Illinois

Follow this and additional works at: <https://digitalcommons.unl.edu/extensionhist>



Part of the [Agriculture Commons](#), and the [Curriculum and Instruction Commons](#)

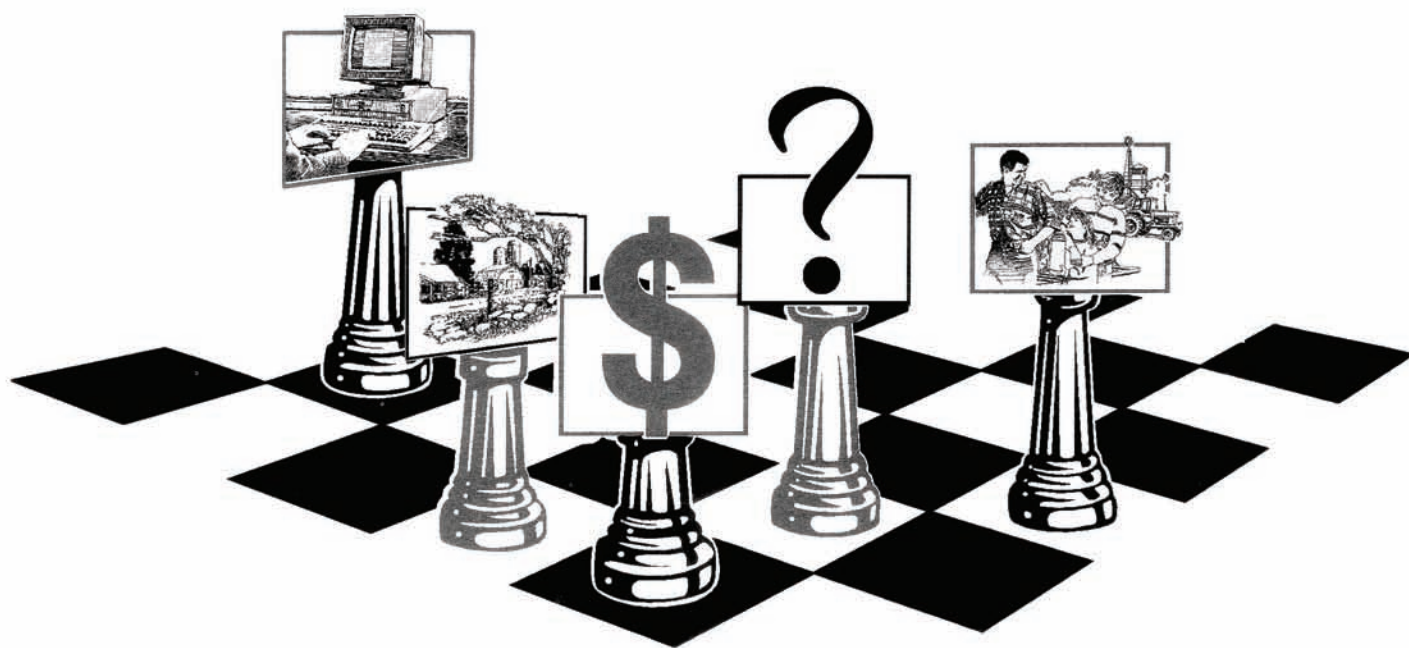
Boehlje, Michael and Lins, David, "RP95-568 Alternative Financial/Organizational Structures of Farm and Agribusiness Firms" (1995). *Historical Materials from University of Nebraska-Lincoln Extension*. 1927.
<https://digitalcommons.unl.edu/extensionhist/1927>

This Article is brought to you for free and open access by the Extension at DigitalCommons@University of Nebraska - Lincoln. It has been accepted for inclusion in Historical Materials from University of Nebraska-Lincoln Extension by an authorized administrator of DigitalCommons@University of Nebraska - Lincoln.

April 1995



ALTERNATIVE FINANCIAL/ORGANIZATIONAL STRUCTURES OF FARM AND AGRIBUSINESS FIRMS



Michael Boehlje
David Lins

Contents	3 Introduction
	4 Criteria for Choice
	Control
	Returns
	Risk
	Maturity/Permanence/Liquidity
	5 Legal Organization
	7 Business Arrangements
	Independent Production
	Contract Production
	Subcontracting or Contracting for Services
	Joint Ventures
	Strategic Alliances
	Franchise Agreements
	Licensing
	8 Leasing
	Real Estate (Farmland) Leases
	Facility/Equipment Operating Lease
	Capital/Financial Lease
	Leveraged Lease
	Leasebacks
	10 Equity Capital
	Sources of Equity
	Business Practices That Affect Equity Capital
	14 Debt Capital
	Loans
	Bonds
	18 Some Final Observations

About the Authors

Michael Boehlje is a professor of Agricultural Economics at Purdue University.

David Lins is a professor of Agricultural Economics at the University of Illinois.

The authors wish to acknowledge the helpful review comments from Robert Jolly, Iowa State University; Warren Lee, Ohio State University; Burton Pflueger, South Dakota State University; and Ross Love, Oklahoma State University.

North Central Farm Management Extension Committee

October 1994

Illinois: Dale Lattz
Indiana: George Patrick
Iowa: William Edwards
Kansas: Mike Langemeier
Kentucky: Richard Trimble
Michigan: Gerald Schwab
Minnesota: Richard O. Hawkins
Missouri: Norlin A. Hein
Nebraska: Dick Clark
New York: George Casler

North Dakota: Harlan Hughes
Ohio: Bernie Erven
Oklahoma: Ross Love
South Dakota: Burton Pflueger
Wisconsin: Bruce Jones
USDA Extension Service: Don West
Farm Foundation: Steve Halbrook
Administrative Advisor: David Petritz
Canada: Ralph Winslade, Wayne H. Howard

Introduction

The range of options for organizing and financing a business has expanded considerably in recent years as innovations in financial markets created new alternatives to meet the varied needs of business managers. The purpose of this publication is twofold: (1) to provide a comprehensive listing of organizational and financing options for farm and agribusiness firms, and (2) to explain the circumstances under which these various options are likely to be most useful.

The approach to the financial/organizational structure of most farm and agribusiness firms is very tradition bound. Historically, financing focused primarily on internally generated equity, with debt used if internal sources of equity were not adequate to finance the growth of the business. The dominant organizational structure has been the sole proprietorship with limited forward or backward "linkages" (i.e., contracts or ownership of successive stages of production).

The options and alternatives available to finance and organize farms and agribusiness firms are now much broader in terms of (1) business/legal arrangements, (2) asset control strategies, and (3) financing instruments/options. Table 1 (below) summarizes these options; each option is discussed in detail in the following sections. Managers need to develop a strategic plan that captures the best financial and organizational structure for their business. This need is dictated by the increased number of options available, the opportunities to lower cost and reduce risk through the proper plan, and the conflicting goals and objectives that should be satisfied in making this strategic choice.

Table 1. The Organizational/Financial Structure of the Agribusiness Firm: The Choices and Options

Legal Organization	Business Arrangement	Leasing Options	Equity	Debt
<ul style="list-style-type: none"> • Sole Proprietorship • Partnership <ul style="list-style-type: none"> - General - Limited • Corporation <ul style="list-style-type: none"> - Regular - Subchapter S • Limited Liability Company • Land Trust • Cooperative 	<ul style="list-style-type: none"> • Independent Producer • Contract Producer • Subcontractor • Joint Venture • Strategic Alliance • Franchise Agreement • Licensing 	<ul style="list-style-type: none"> • Real Estate Lease <ul style="list-style-type: none"> - Cash lease - Share lease - Flexible cash lease - Shared appreciation lease • Facility/Equipment Operating Lease • Capital/Financial lease • Leveraged Lease • Leasebacks 	<ul style="list-style-type: none"> • Sources <ul style="list-style-type: none"> - Initial capital contributions - Retained earnings - Stock <ul style="list-style-type: none"> * Common stock * Preferred stock - "External" equity - Warrants or options - Venture capital • Business Practices <ul style="list-style-type: none"> - Payout (dividend or withdrawal) policy - Intrafamily transfers - ESOPs and stock options - "Buyout" policies 	<ul style="list-style-type: none"> • Loans <ul style="list-style-type: none"> - Maturity - Interest rate - Amortization arrangements - Prepayment features - Security/collateral - Conversion of terms - Shared appreciation mortgages - Reverse mortgages - Interest rate strips, futures, options, swaps • Bonds <ul style="list-style-type: none"> - Convertible bonds - Callable bonds - "Zero coupon" or deep discount bonds

Criteria for Choice

There are a number of criteria that should be considered when choosing a financial and organizational structure. Some of the most important are discussed here.

Control

The objective of maintaining control dominates organizational and financial decisions in many small businesses developed by a single entrepreneur. This objective is linked to the desire for independence and the focus on individual decision making. This fundamental objective may be one of the reasons for the dominance of internal equity funded sole proprietorships in the farm and agribusiness sector.

Returns

This objective focuses on which options will allow access to resources and funds at the lowest cost, and emphasizes the set of economic activities and enterprises that maximizes profits. Costs to be considered include administrative and legal costs (including taxes, licensing fees, etc.) as well as the more traditional costs of acquiring inputs and doing business. The tax treatment and resulting tax burden of various alternatives are critically important, as are the direct costs (interest, fees, etc.) of the various ways of sourcing funds. This objective focuses on organizing and financing the business in such a way as to meet the strategic objective of generating the highest net returns possible.

Risk

The risk of financial loss involves four dimensions.

Claims of various parties on income or revenues: Because of legal structure, contract agreement, or financial arrangement, various parties have different claims on the income or revenues of the business. For example, debt holders have a different form of claim on income of the business than do equity holders. Characteristics of these claims, including amount, certainty (as contrasted with uncertain or contingent), and priority, will determine their impact on income risk.

Claim on assets: Various legal and financial arrangements carry specific claims on assets of the business. These claims are frequently conditional in nature and contingent on specific financial or economic performance.

For example, a debt holder may have secured a loan with a pledge of collateral—assets that can be claimed if the debt is not repaid. The amount, general vs. specific, and conditional nature of these claims will determine their impact on asset risk.

Bankruptcy/legal liability: The risk of financial loss from bankruptcy and legal liability depends heavily on the financial and organizational structure. If all the assets one owns are included in one legal entity, they may all be vulnerable to bankruptcy claims. The use of multiple legal entities may help protect the assets of one entity from liability or bankruptcy claims of a separate entity. Personal liability exposure can also be significantly impacted by the financial and organizational structure. Vulnerability under liability and bankruptcy rules is the fundamental dimension of bankruptcy/liability risk.

Failure: The success or failure of the business is influenced in part by the financial and organizational structure. Failure may result in losses in value or other consequences for related business ventures as well as loss of self-esteem, prestige, and respectability of the owners.

Maturity/Permanence/Liquidity

The permanence or longevity of the arrangement or option is a fourth major criteria for choosing among financial/organizational options. In some cases an organizational structure or financing arrangement is needed for only a short period, or it may be a transition to a longer term, more permanent financial/organizational structure. Some arrangements or agreements are difficult or costly to dissolve once set up (i.e., a corporate or partnership business arrangement with no buy/sell agreements) or are long-term in nature (a 30-year mortgage with prepayment penalties), whereas other arrangements are more flexible or have a shorter maturity (a convertible bond or a short-term lease, contract, or loan). This time dimension is critical in choosing among various organizational and financial options.

Legal Organization

An important and frequently the first decision in organizing a business is the choice of legal form of business organization. Two critical points should be made at the outset. First, the choices are much broader than the traditional options of a sole proprietorship, partnership, or corporation. Second, more than one legal arrangement is frequently used in successful business ventures. For example, different business units within the same venture may be separately incorporated. Part of the strategic plan for financing and organizing the business is how to *combine* the legal/business arrangements to satisfy the specified goals.

The choices of legal form of business organization include the following:

- Sole Proprietorship
 - Partnership
 - General
 - Limited
- Corporation
 - Regular
 - Subchapter S
- Limited Liability Company
 - Land trust
 - Cooperative

The typical legal arrangements used by farms and agribusiness firms are the proprietorship, the general and limited partnership, and the regular and subchapter S (tax option) corporation. The general characteristics of these legal arrangements are summarized in Table 2 (p. 6), and since they are so commonly used will not be discussed in detail. Further information on the topic is available in "Farm Business Arrangements: Which One For You" (NCR-50), "Planning Your General Farm Partnership Arrangement" (NCR-244), and "The Farm Corporation" (NCR-11).

In addition to these common alternatives, less frequently used (but often appropriate) legal arrangements include the following.

Limited liability company: The limited liability company is basically a hybrid of the corporate form of business and the partnership form of business. As the name implies it offers owners of the business limited liability like a corporation; however, it may be classified as a partnership for tax purposes. This allows the firm to obtain limited liability without facing the "double" tax on business income like a regular corporation. It does not suffer from the restrictions on number of

owners and other limitations of a Subchapter S corporation, so many more businesses can qualify. One of the possible disadvantages is that under some circumstances, the limited liability company could fail to be classified as a pass-through tax status entity and become classified as a corporation.

Laws permitting the formation of limited liability companies vary from state to state. However, most states now allow this type of legal business entity. Additional information on the advantages and disadvantages of a limited liability company can be found in "An Organizational Alternative for Small Business," *Nebraska Law Review*, Winter 1991, pp. 50-182.

Land trust: A land trust is a legal entity that allows a land owner to transfer property to a trustee. While the trustee is the legal owner of the property, the powers of ownership are actually governed by a trust agreement which places possession and management powers in the hands of beneficiaries. The primary benefits of a land trust are avoidance of probate upon death, insulation of land from legal judgments, avoidance of problems of multiple ownership, and privacy of ownership. The main problems are management problems, limited duration (typically 20 years), termination of the trust, and loss of the homestead exemption. Additional information on land trusts can be found in "Illinois Land Trusts and the Farmer" by C. Allen Bock and N.G.P. Krausz, Department of Agricultural Economics, University of Illinois, AE-4512 (July, 1981).

Cooperative: A cooperative is a legally incorporated business entity capitalized by its member patrons that carries out business activities for its member patron/owners and remits margins to its patron/owners in proportion to their patronage business. Cooperatives have been a very popular business arrangement to acquire inputs and sell products in agriculture. A cooperative is taxed on income at corporate rates, but patronage refunds are tax deductible to the cooperative if specified rules are met. Increasingly, independent farmers are using the cooperative structure to jointly acquire and provide machinery and equipment services, breeding stock, marketing and selling services, advisory and consulting services, and other assets and services.

Table 2. Comparison of Farm Business Organizations §

D-1.1
March 1991
G. Harrison
Purdue University

	Sole Proprietor	Partnership	Corporation	Land Trust
Nature of Entity	Single individual or husband/wife	Aggregate of two or more individuals	Legal person separate from shareholders	Separate from beneficiaries and trustees?
Life of Business	Terminates on death	Agreed term; terminates at death of partner	Perpetual or fixed term of years	Fixed term of years with extensions thereafter
Liability	Personally liable	Each partner liable for all partnership obligations	Shareholders not liable for corporate obligations	Beneficial interests subject to attachment, not the land
Source of Capital	Personal investment; loans	Partners' contributions; loans	Contributions of shareholders for stock; sale of stock; bonds and other loans	Settlor
Management Decisions	Proprietor	Agreement of partners	Shareholders elect directors who manage business along with officers elected by directors	Beneficiaries and trustee by trust and management agreements
Limits on Business Activity	Proprietor's discretion	Partnership agreement	Articles of incorporation (by-laws) and state corporation laws	Trust and management agreements
Transfer of interest	Terminates proprietorship	Dissolves partnership; new partnership may be formed if all agree	Transfer of stock does not affect continuity of business. Stock may be transferred to outsiders if there are no restrictions	Assignment of beneficial interests
Effect of Death	Liquidation	Liquidation or sale to surviving partners	No effect on corporation. Stock passes by will or inheritance.	Trust agreement and trust code interests are personal property by will or laws of descent
Income Taxes	Income taxed to individual	Partnership files an information return but pays no tax. Each partner reports share of income or loss, capital gains and losses as an individual	<u>Regular Corporation:</u> Corporation files a tax return and pays tax on income; salaries to shareholder-employees are deductible. Capital gains are offset by capital losses. <u>Rates, July 1, 1987:</u> 1st \$50,000, 15%; next \$25,000, 25%; over \$75,000, 34%. ‡ <u>Tax-Option Corporation:</u> Corporation files an information return but pays no tax. Each shareholder reports share of income, operating loss, and long-term capital gain.	Income, depreciation, and expenses pass to the beneficiaries in proportion to the beneficial interest held

§ Table taken in part from NCR-11, *The Farm Corporation*. Land trust added by G. Harrison.

‡ An additional 5% tax (maximum amount of \$11,250) is imposed on a corporation's taxable income above \$100,000. This provision phases out the benefit of the 15% and 25% rates for corporations with taxable incomes of more than \$335,000.

Business Arrangements

In addition to the legal form of business, farms and agribusiness firms have a wide choice of business arrangements, and they can use them in various combinations in the same firm. Alternative business arrangements include:

- Independent Production
- Contract Production
- Subcontracting
- Joint Ventures
- Strategic Alliances
- Franchise Agreements
- Licensing

Independent Production

The independent producer arrangement is the most common method of conducting business. Under this arrangement, the firm is free to buy inputs from wherever and from whomever it pleases. Likewise, output from the firm is marketed in whatever channels the firm chooses. The independence of operator decisions is a key advantage of this business arrangement. However, in certain commodities economic forces are making it less feasible for independent producers to compete effectively in an increasingly integrated market place.

Contract Production

Contract production is becoming increasingly popular in livestock and crop production. This arrangement typically involves a contract agreement between various levels in the production/marketing/distribution chain, e.g., between the producer and an input supplier or a processor. Such arrangements have become very commonplace in the production of various vegetable and specialty crops as well as broilers, turkeys, and, increasingly, hogs. Contracting arrangements are highly variable in scope, but likely will take one or a combination of the following forms.

Product specification: This type of contract includes detailed product specifications to guarantee the quality characteristics of the product. Sizable discounts and premiums occur if quality standards are not met.

Resource providing: This arrangement specifies that the contractor will supply specific inputs or resources to be used in the production process of a specific quality product at a specified price and/or under agreed upon conditions.

Price- or risk-sharing: This type of contract specifies or guarantees price for a product with specific quality attributes; specifies a minimum profit margin above a calculated cost of production and guarantees that margin; or specifies a sharing of the margin above calculated costs, or some combination thereof.

Market access: This contractual arrangement is structured to guarantee access by the producer to the processing facility. It is used primarily as a flow scheduling device to more efficiently use production and processing facilities by scheduling them at full capacity. Market access arrangements reduce the risks of not having capacity available when products are mature or having excess processing capacity when products are unavailable.

Subcontracting or Contracting for Services

This type of arrangement can take many forms, but essentially involves payment by a contractor for services provided. It differs from contract production only by degree—contracting for service typically involves fewer activities or functions than contract production. It may involve payments for feed, processing, and labor services in livestock production (e.g., custom feeding of hogs or cattle, or backgrounding of cattle on pasture). Other common contract for service arrangements in production agriculture include custom harvesting, chemical application, custom farming, and acquiring such specialized services as trucking.

Note that producers can participate on either side of this transaction; they can be providers of contract services (e.g., custom feeders or custom farmers), or they can use those services to accomplish various phases of their farming or feeding program. In agribusiness firms, subcontracting of activities such as distribution services, delivery services, or the manufacture of component parts to be used in further fabrication or assembly can be a profitable alternative to owning and managing the resources to accomplish such tasks.

Joint Ventures

With this form of business arrangement, a separate business entity or subsidiary is jointly formed by two or more firms to carry out specific activities. In production agriculture, such a joint venture might be used

(sometimes in an informal fashion) to jointly own machinery and equipment for separate farming operations, to jointly feed or breed livestock, or to jointly transport and market products or buy inputs. In the agribusiness sector such arrangements may include joint purchasing, manufacturing, distribution, or merchandising activities at either a local retail level or as part of a large-scale national or international business venture.

Strategic Alliances

A strategic alliance is a formal or informal agreement among two or more firms to jointly work together to achieve a desired end result. The alliance may involve no sharing of capital assets, but rather represent a sharing of common goals and procedures. For example, a food retailer may enter into an agreement with a seed corn firm, a group of corn growers, and a processing facility to breed, raise, and process a special type of corn that will result in more tasty corn chips to be sold by that retailer. Each firm has a vested interest in the success of the other firms in the alliance, but there is no common ownership of assets among the members of the alliance. Obviously, strategic alliances can work in many different ways. An interesting feature of these alliances is that they often tend to be quite flexible and of limited duration as new alliances are formed.

Franchise Agreements

Franchise agreements are quite common in the food distribution chain. Particularly

widespread are franchise agreements involving fast food chains like McDonald's, Wendy's, Hardee's, KFC, and many others. The benefits to the franchise come from common name recognition, efficiency of promotional efforts, and standardization of product and service functions.

Licensing

In some cases, one firm may possess a particular product or process technology but it may not have the resources to exploit that technology completely. In such cases, the firm might license another company to use or merchandise that technology for an annual fee or royalty. Although such arrangements are not common in production agriculture, they may occur in the input supply or product processing industries, and increasingly so in the future with biotechnologies that require such large investment outlays to obtain a new breakthrough.

Licensing arrangements between "technology" companies and "manufacturing/distribution" companies may allow for more cost-effective use of the unique skills and capabilities of each organization. Some producers might use a licensing agreement to enable a specialized computer or service company to merchandise a marketing or production information system they have developed.

Leasing

In general terms, leasing is a method of obtaining use and control of assets without the requirement to own them. Leases can be single season, annual operating leases, or longer term in nature. Some analysts view leasing as simply an alternative form of financing. Debt allows one to acquire the *ownership* and use rights to assets with part of the earnings used to service that debt; leasing allows one to acquire *control* and use of the assets for an annual lease payment. Leasing is a very *common* method of "financing" asset use in agriculture—more frequently used for real estate and buildings than for machinery and equipment.

The various leasing arrangements and choices include:

- Real Estate Leases
 - Cash lease
 - Share lease
 - Flexible cash base
 - Shared appreciation lease
- Facility/Equipment Operating Lease
- Capital/Financial Lease
- Leveraged Lease
- Leasebacks

Real Estate (Farmland) Leases

There are four fundamental types of farmland leases, with variations and combinations thereof. Most of these leases are of one-year duration, but they may be negotiated for a longer period.

Cash Lease

A cash lease typically involves a cash payment for the annual right to farm or graze a parcel of real estate. Payments are a function of productivity and local supply/demand conditions, but are typically fixed prior to the production season with full or at least partial payment in advance. Approximately 64 percent of the farmland leases in U.S. agriculture were cash leases in 1992.

Share Lease

A share lease usually requires both tenant and landlord to share some part of the crop production expenses as well as the output. Common share lease terms in the Midwest have been a 50-50 share, with the landlord and tenant sharing equally the expenses of purchasing operating inputs (seed, fertilizer, chemicals, fuel, etc.) and the resulting output. Each party in such an arrangement is responsible for financing his or her share of the inputs and selling his or her share of the output. A share lease may involve livestock production facilities as well as farmland; such arrangements are typically more complex than crop share leases. Approximately 30 percent of the farmland leases in the U.S. were share leases in 1992.

Flexible Cash Lease

Because cash leases typically involve fixed payment, the lessee (tenant) may encounter significant risk. An alternative that transfers some of the risk from the lessee to lessor (landlord) is the flexible cash lease. With this arrangement the annual lease payment is flexible depending upon yields and/or prices. Such flexible payments are frequently combined with a fixed base to guarantee a minimum lease payment.

Shared Appreciation Lease

This type of farmland lease has been suggested for use by institutional owners of farmland, but is yet largely untested in practice. The shared appreciation lease allows tenants to pay a somewhat higher than normal rent to the farmland owner in exchange for some share of the future capital gains on land.

The benefit to the tenants is that it allows them to improve rented property and then share in some of the value increase. It also provides a mechanism for developing an

equity interest in land without borrowing money to buy land. In addition, the higher than normal rent may reduce current taxable income in favor of future capital gains. For the owner of the land, the primary benefit comes from increased current returns at the expense of giving up some portion of the future capital gains. Additional information can be found in "Shared Appreciation Leasing" by David Lins, *AgriFinance*, November 1990.

Facility/Equipment Operating Lease

A facility/equipment operating lease involves a specified payment in cash (sometimes in kind) for the use of a particular building, structure, or item of equipment for a specified period of time. A common example is to lease a tractor or combine for the tillage or harvesting session, respectively, or to lease a warehouse or trucks for storage and distribution of feed and supplies. Operating leases are typically seasonal or annual (with renewals) in length, with no ownership rights or responsibilities occurring to the lessor.

Capital/Financial Lease

This type of lease arrangement is different than a single season or annual operating lease in that it is longer term (the term is usually a function of the life of the asset); it typically allows the lessee to recover most, if not all, of the purchase price of the asset over the lease term; and the lessor typically has an option to buy at the end of the lease period. Capital leases are treated much like debt-financed asset purchases from an accounting and analysis perspective—they are included in the balance sheet as an asset at the capitalized value of the lease with the scheduled lease payments as an offsetting liability, and they are analyzed with net present value and/or interest rate equivalent procedures. Qualified capital leases receive unique tax treatment (lease payments are fully tax deductible), which may be a major advantage for some firms.

They are commonly used in the agribusiness sector to acquire machinery and equipment (trucks, application and delivery equipment, etc.), and less so for buildings and facilities. In production agriculture, capital leases are less popular than in the agribusiness sector, but are most commonly used for major equipment items such as power and harvest-

ing units. Some firms lease breeding stock, with the lease payment being in kind (i.e., offspring) rather than cash. Increasingly, cars and other motor vehicles are being leased by consumers as well as farm and agribusiness firms. In many cases the option-to-buy feature of such leases is structured to encourage purchase at the end of the lease period, or to encourage replacement with another leased asset.

Leveraged Lease

This lease arrangement involves three parties: a lessee, a lessor, and a lender. In essence, the lender makes a loan to the lessor that enables him or her to purchase the equipment. The lessor then leases that equipment to a lessee. The lease arrangement has been prearranged in such cases, thus providing the cash flow needed by the lessor to satisfy the lender's concern with repayment. Such arrangements are common in the transportation industry, with the leveraged leasing of airplanes, locomotives, trucks, and rail cars. Such an arrangement allows advantageous use of the relative tax and financial position

of the lessee and lessor. There is no reason why leveraged leasing could not be used in agriculture, although it is not a common occurrence.

Leasebacks

A common arrangement that may be used to financially restructure a business is the sale-leaseback. With this arrangement, a business sells assets to another with an explicit leaseback provision. This arrangement allows the original business to transfer ownership of the asset but still retain the right and opportunity to use that asset in the business. Sale-leasebacks have been most frequently used for financially stressed firms where the debt-service to maintain ownership cannot be paid. In these cases, the property has typically been transferred back to the mortgagor or sold to a third party with the provision that the original owner will lease and operate the property. Sale-leasebacks might be effectively used in other circumstances where the objective is to improve the asset liquidity and the operating flexibility of the business.

Equity Capital

If a business venture is to be carried out with owned assets rather than leased assets or through a contract, license, or other business arrangement, the assets can be acquired with two fundamentally different sources of funds—debt and equity. Although the choice of funding strategy at first blush seems rather straightforward, the number of options and alternative forms of debt and equity makes the decision much more complex. This section focuses on equity capital, while the next section focuses on debt capital.

Sources of Equity

Equity is the owner or investor's contribution to the funding pool, which can come from various sources using various instruments.

Initial Capital Contributions

The first source of equity funding for any business is the initial capital contributions from the owners/investors. These funds may come from many sources: accumulated savings, borrowing against personal assets, liquidation of investments, inheritances, etc. In some small and start-up ventures this contribution may be "in kind" (i.e., specific

assets rather than cash). It may be inherited or gifted business interests or assets from family members that were previous owners. Or it may occur in the form of "in kind" labor and management contributions during the start-up phase where managers are compensated in the form of equity interests (for example, stock or partnership shares) rather than cash wage or salary payments.

Retained Earnings

The most common source of equity is retained earnings. Retained earnings are, in essence, those funds which have been accumulated from net earnings after taxes and withdrawals by owners through dividends or other payouts to equity holders. Retained earnings are valuable because they provide concrete evidence of the ability of the firm to generate earnings and the willingness of the owners and investors to save or retain those earnings "at risk" in the business. In essence, retained earnings are the core of the risk capital of the business.

Stock

If a corporate business entity is used, a critical choice must be made about the form

of equity ownership—the type of stock. Two fundamental options are available (and they can be combined in various fashions)—common stock and preferred stock.

Common stock, as the name implies, is the most common form of stock instrument. It carries full voting and transfer rights (unless restricted by a by-law or shareholder agreement) and the right to receive dividends if declared by the corporate board. Owners of common stock have the lowest or last financial claim upon bankruptcy or firm liquidation.

Preferred stock frequently has restricted voting rights, but dividends must be paid on preferred stock before common, and preferred shareholders are to be compensated for their claims at par value prior to common at liquidation. Preferred stock is frequently marketable and tradable without restriction. Preferred stock may be convertible to common at a specified conversion rate, and it may be callable (able to be paid off prior to maturity) under certain terms as well. These features provide flexibility in eliminating the “preferred” status of this form of equity funds if that is desired to recapitalize the business. Preferred stock is frequently used to finance mergers and acquisitions because it generally has a lower cost than equity obtained through common stock.

Raising equity capital through the public issuance of stock is neither easy nor cheap. Public disclosure laws require extensive documentation of the financial condition of the firm and the risks faced by equity capital providers. And for small public offerings, the cost of raising equity capital is often dramatically higher than the cost of raising debt capital. Thus most farms and agribusiness firms have not found it feasible to raise equity capital through public issuances of stock.

“External” Equity

In this context external equity refers to the concept of soliciting investors (maybe family members, but more likely individuals outside the family and possibly outside the local community) to provide funds to finance the business. These investors may acquire common or preferred stock in a corporate structure, or become participants in a general or limited partnership. Such arrangements involve proportionate interests in the business venture, with the manager/investor and

the “external” investor sharing in the risks and the rewards of the enterprise.

Some of these arrangements are structured with the “external” investor purchasing specific assets such as real estate or buildings and the operator leasing these assets and using them in the business. This latter arrangement reduces the potential conflicts if disagreements result in a decision to close down the business venture; if assets are not jointly owned, the difficult tasks of determining value and ownership interests are avoided. Finding and soliciting “external” investors can be a very time-consuming task, and those who do so may encounter criticism because of the stigma of “external” equity in rural communities.

One form of external equity capital that has grown in recent years is institutional investment in farmland. With funds acquired primarily from retirement or pension funds, investment firms have managed the process of buying and managing farmland for pension fund investments. In some cases, these purchases of farmland have involved sale-leaseback practices identified earlier. Recent estimates suggest that some \$500 to \$600 million dollars of such “external” equity have been invested in farmland.

Warrants or Options

A warrant is, in essence, a right or option to purchase shares of stock or an equity interest in a business venture during a specific time at a specified price. Such an arrangement is typically used in combination with other debt or restricted equity instruments to make them more attractive. Warrants generally can be severed or detached from the package of instruments in the original offering and can thus have independent value and can be bought and sold.

If a warrant is exercised, the owner pays the specified price for the stock or equity interest and thus must contribute new funds to the firm; so in this important aspect, it differs from a convertible instrument that simply changes the ownership interest from a debt to an equity position with no new funds advanced. Additionally, if warrants are issued with other instruments, the original owner of a warrant can maintain his or her position as a debt or equity holder by selling the warrants, or enhance his or her position by exercising the warrant rights.

Thus, the instrument is very flexible in responding to the changing objectives of investors. Warrants have been widely used in Japan and other countries, but are less commonly used in the United States.

Option-to-buy arrangements that give a prospective investor the right to buy an equity interest (whether in a corporate structure or not) at a specified price are a less formal form of the warrant and typically do not have the same level of marketability or liquidity. Warrants or options to buy are commonly used in start-up companies or merger situations to enable prospective investors to share in the potential success of the venture, thus making the investment more attractive to the prospect. Note that this arrangement differs from listed options which are tradable rights to buy or sell *currently issued stock* at specified prices during a specified period. Such arrangements are not a direct source of funding but are, instead, part of the investment strategy for stock and bond portfolio managers.

Venture Capital

The term "venture capital" is sometimes used as a catch-all phrase to describe almost any source of funds for a specific venture. Friends, relatives, and business associates may be sources of venture capital, as may be wealthy investors. In recent times, a venture capital industry has developed with funds provided to venture capital firms by wealthy investors or, more likely, large corporations and financial firms in the insurance, pension fund, and banking industry.

Venture capital firms use various forms to invest funds, but generally prefer an equity position or a combination of debt and equity. Their expectation is to assist in the high risk start-up phase of a business venture, to be amply rewarded for that risk (rates of return of 20-30% per year), and to liquidate their investment interest in a 5- to 10-year period and not be part of the permanent capital base of the venture. Venture capital firms are a logical source of funds for only a limited number of farm and agribusiness ventures—primarily those that can generate high rates of return, have a unique market niche, and have the capacity to cash out the venture capital firm after a few years.

Business Practices That Affect Equity Capital

In addition to the various sources of equity capital, there are key business practices which affect the amount of equity capital retained in a business.

Payout (Dividend or Withdrawal) Policy

Although not a source of equity, the payout policy is a critical equity funding decision because it directly determines the retained earnings. In incorporated businesses, payouts can occur in the form of dividends on stock as well as salaries to owner-managers. Dividends are not tax-deductible to the corporate business, whereas salaries are. So salaries are typically preferred for businesses where the manager/employees are the dominant owners.

In the non-corporate business entity, the payout typically occurs in payments of cash or in-kind to owners' personal accounts. In some cases the business may acquire assets for personal use of its owners (e.g., cars, houses, etc.), but such arrangements are subject to careful tax and lender scrutiny. Payouts may also occur through required payments on debt instruments, such as personal loans, subordinated debentures, or installment sales contracts held by owners.

For an incorporated business whose stock is traded on a public exchange (or even by private treaty), the dividend policy and the consistency of that policy is an important determinant of the value of the stock. For any business, the payout policy indicates whether it is being used as a "cash cow" for other business or personal purposes, or as a viable firm with a long-run strategy to fund a significant proportion of its growth and operations. In essence, the payout policy reflects the savings behavior of the business and its managers.

For cooperative forms of business, a key financial management issue has long been the payment of patronage refunds, a form of dividend, and the manner by which retained patronage will be paid out to departing and existing members of the cooperative. The need to maintain a strong capital base must be weighed against the members' desire to obtain refunds quickly and equitably, especially if they no longer belong to the cooperative.

In general, cooperatives may encounter particularly unique problems in terms of equity (and sometimes debt) financing in that equity is generated to a large degree through patron returns and is not easily marketable. Furthermore, the equity typically does not generate a direct cash return to the investor, and delays may be encountered in redeeming it even at death. So equity investments in a cooperative appeal only to a narrow group of investors—primarily current users of that cooperative's services.

Intrafamily Transfers

Inheritances and other forms of intrafamily transfers may be a significant source of equity funds, particularly in the case of small and/or start-up businesses that frequently involve a number of family members. Family members may invest in the business as direct investors or silent partners. Ownership interests may be transferred between family members through gifts and/or inheritances; this is a common occurrence when transferring family-owned small businesses, including farms and agribusiness firms, between generations.

Intergenerational transfers of business firms can encounter a number of financial and management problems, including conflicts among family members about the control and management of the business, the financial claim that may occur if a family member withdraws his/her inheritance, and potential tax liabilities associated with the transfer. Although intergenerational transfers are common in agriculture, they often result in significant conflicts and problems.

ESOPs and Stock Options

An ESOP (Employee Stock Ownership Plan) is one method used to encourage employees to acquire an ownership interest in the business venture. ESOPs are used to allow employees to purchase equity in the business. In some cases, an ESOP arrangement is used by an employee group to buy out current owners/investors. In this situation it doesn't provide additional funds or financing to the business venture. In other cases, an ESOP will be used as a stock bonus plan where the employee receives stock in lieu of or in addition to a salary. A leveraged ESOP can borrow money to purchase stock. Thus, ESOPs can be used as a vehicle to access funds or finance asset purchases.

Stock options that allow the employees to purchase newly issued stock increase the funds available for the business. In some smaller business ventures, employees or management personnel may be compensated part in cash and part in stock; such an arrangement is a form of "forced" savings or retained earnings, since cash outflows for direct salaries are reduced and the savings are accumulated in the business and used to fund operations. The most common use of ESOPs has been for relatively large companies with many employees. While the concept can be used by farm and agribusiness firms, it has not yet gained widespread acceptance in agriculture.

"Buyout" Policies

If two or more individuals have an equity interest in a business venture, the policies and procedures that will allow buying out the interests of one who wants to sell or leave the business are crucial. Without such policies, a disagreement on business strategy or operations may result in substantial problems and possibly the failure of the business.

Generally, the buyout policy should cover such items as valuation of the various equity interests, the terms for payment, conditions of the sale, eligible potential buyers, and any constraints on exiting investors, including non-compete clauses. Discounts and premiums for minority or majority ownership and control positions should also be considered. The valuation procedure may include appraisals, book value based on accounting principles, capitalization of earnings, or other arrangements. Payment terms may include cash or, more likely, payments over time secured by a note or other debt instrument such as a bond.

Restrictions may be imposed on who qualifies as prospective buyers and what activities the seller is prohibited from doing so as to not harm the business once he or she has sold out. The buyout policy should be well thought out in advance, because tensions are typically high and may impede rational thinking at the point when someone decides to sell his or her interest in an ongoing business.

Debt Capital

Debt capital is obtained in two primary ways—loans and the issuance of debt instruments such as bonds.

Loans

Loans for farmers and agribusiness firms are available from a variety of lenders and with a variety of features. Our focus will be on the key features of loans rather than on the institutions which provide such loans. Some relatively new types of mortgage contracts will also be described.

Maturity

One of the first choices that must be made in any loan is debt maturity or the length of time over which the principal must be repaid. With the incremental approach to debt-financing, the cash flow available for debt-servicing becomes a dominant consideration in the decision about the length of time to repay. Cash flow is, in fact, one test of how much debt a firm can safely handle, but capital debt repayment capacity is also important and can, in fact, give a better indicator of the total debt that can safely be utilized by the firm.

In essence, the concept is asset liability matching; i.e., the maturity of liabilities should be matched to the maturity of the assets in the business. Short-term assets should be funded with short-term liabilities, and, likewise, long-term assets should be funded with long-term liabilities. Mismatching in the form of financing longer term assets with shorter term liabilities has been a common problem in the past in agricultural lending (as well as in financial institutions such as Savings & Loans and some commercial banks). Maturity matching allows use of the full financial life and cash flow generating capacity of the assets to be used to support the liabilities.

In some cases, particularly with installment contract sales of real estate, the lender/seller demands a shorter maturity than is financially desirable based on the asset's life and cash flow generating capacity. In this case, a partial amortization or paydown with a balloon at the end of the contract life can be used to better match assets and liabilities.

A new concept that may assist in matching cash flow to debt maturity is the adjustable term loan. With this arrangement, if interest rates rise, the annual payment remains

constant but the life of the loan or maturity increases to reflect the higher rate. With the adjustable term arrangement, higher interest rates don't result in increased annual debt-servicing requirements and potential repayment problems, in contrast to the typical situation with the adjustable rate arrangement.

Interest Rate

The second decision that must be made or negotiated in the choice of a debt-financing strategy is that of interest rate. The interest rate decision is typically not independent of loan maturity; long-term rates are usually higher than short-term rates because the normal shape of the yield curve is upward sloping. However, in agricultural lending longer term loans are typically lower risk because of the security used and have lower servicing requirements and costs, so carry lower rates.

Interest rates depend on negotiation skills as well as the financial strength of the business and the maturity of the debt. Skill in negotiating with the lender can be important, not only in obtaining debt funds but in the cost of those funds.

A second dimension of the rate decision that can be very important is the choice of a fixed vs. variable rate and the period for which the rate is fixed. Many farm real estate lenders will offer a number of rate options, such as variable rate with monthly or quarterly adjustments or fixed rate for 1, 3, or 5 years. As one would expect, the rates increase as the time that must elapse to reset the rate increases in length. Limits on the amount of rate increase per period during the life of the loan ("caps") may also be available. The choice of rate arrangement depends on the ability to take risk.

Amortization Arrangements

Amortization refers to the payment structure on the debt obligation. The most common amortization schedules are either constant principal payments with interest on the outstanding balance or constant total payments with smaller interest and larger principal payments over time. But numerous other repayment options could be used. One such arrangement is the variable repayment plan, where the annual payments are a predetermined function (with a speci-

fied minimum) of the net income or cash flow of the business. This arrangement is structured to reduce the risk of inadequate debt-service in low income years and to increase the debt-servicing in high income years.

With a "reverse annuity" amortization schedule, the annual payment is less than the interest obligation during the early years of the debt obligation so that the outstanding balance on the debt actually increases rather than decreases. This arrangement may be used to finance assets of a firm that is expected to increase in value but has inadequate cash flow or income during its early years. A variation of this arrangement is the delayed interest agreement, where interest and/or principal payments may be delayed until a specified later date during the life of the contract agreement.

Some amortization arrangements call for a partial amortization during the debt contract plus a balloon payment at the end of the contract. This is a common arrangement with shorter term installment land contracts in the farm real estate market. Another arrangement is the interest-only repayment schedule, where the entire principal obligation is due at maturity, much like a bond. A variable-term arrangement, where the annual payment is fixed but the length of loan increases or decreases (rather than the periodic payment) as interest rates rise or fall, is another option. Finally, some amortization arrangements allow for a deferral in the payment under specific circumstances. For example, the annual principal and/or interest payments may be deferred to a subsequent year on some farm mortgages if natural disasters make it impossible to make such payments.

Prepayment Features

If a fixed interest rate is chosen, there may be prepayment penalties. With such an arrangement, the lender uses the penalty to discourage prepayment and refinancing by the borrower if interest rates should decline. In most cases, the prepayment penalty declines over the maturity of the loan so that refinancing is less costly and may, in fact, be done with no penalty after a specified maturity. Prepayment penalties can frequently be negotiated, so the financial manager should be alert to that potential.

Security/Collateral

Lenders may make unsecured loans, but generally for business transactions the lender will require some type of security in addition to the personal signature of the borrower. This security or collateral may be quite specific (e.g., a mortgage on a particular parcel of real estate), or it may be general (e.g., all inventories of crops and growing crops plus machinery and equipment owned by the operator).

A general principle in providing security is that the borrower should meet the lender's minimum collateral requirements, but should not "over collateralize." Providing excess collateral to support a loan reduces the potential and flexibility to obtain debt funds from other sources. It constrains the ability of the manager to fully use the financial strength and risk-bearing ability of the firm. Because lenders are risk averse, they may request more security or collateral than may be needed for an "extra" margin of protection. Again, negotiation skills can be valuable in this critical decision of the collateral or security that must be provided to support a loan.

Conversion of Terms

Traditional lending to farm and agribusiness firms allowed little or no flexibility to adjust loan terms during the life of the contract. Now, in addition to rate adjustments, some lenders are providing a broader set of conversion options. For example, the borrower may be allowed to convert from a variable rate to a fixed rate loan or vice versa; or he or she may be able to change from a 3-year fixed rate to a 5-year fixed rate. Such conversions typically require a fee, but they allow the borrower the flexibility to adjust to changing financial and market conditions.

Shared Appreciation Mortgages

This debt instrument is similar to convertible bonds (p. 16) but has a specific, unique use and structure. In essence, the shared appreciation mortgage contract calls for a sharing of any increase in value of the asset used for security between the owner/borrower and the lender, rather than all appreciation in value accruing to the owner/borrower. Typically, such arrangements will carry a lower interest rate since the lender is expecting to be

compensated, in part, through appreciation in the value of the asset.

Such arrangements have also been used in debt-restructuring where the lender "writes down" debt obligations but then uses a shared appreciation mortgage to recoup this write-down in the event that the underlying assets increase in value. Although such arrangements are most typically used in real estate financing, they could be, and have been, used with any business venture where the value of the firm and/or the assets is expected to increase significantly over time.

With shared appreciation mortgages, the mortgage balance is generally increased by the percentage share of the increase in asset value that has occurred over the life of the contract. Thus, valuation procedures at both the initiation and at the end of the contract, as well as the percentage share, are critical to the implementation and the cost of this arrangement. In some cases, a lender (more typically an individual or an insurance or pension fund, rather than a bank) may convert his or her shared appreciation accumulated value into an equity rather than a debt interest in the asset or firm.

Reverse Mortgages

A traditional mortgage allows the borrower to obtain a large initial sum of money that will be repaid in smaller increments over time. The reverse mortgage, in contrast, allows the borrower to obtain small incremental sums of money in exchange for a large lump sum payment at the end of the loan period. The reverse mortgage has been particularly useful in capturing equity in a home or farm without an immediate sale of the property. As such it can be a useful tool in retirement and estate planning.

Interest Rate Strips, Swaps, Futures, and Options

Innovations in financial markets have created numerous "derivative" products to deal with interest rate risk. Financial instruments can be structured and packaged, for example, so that one party receives the interest and another the principal (a strip) or the various parties exchange their payment streams (a swap). Farmers and agribusiness firms have long had the opportunity to control price risk through futures and options on various

agricultural commodities; similar instruments are available to control interest rate risk.

Interest rate strips, swaps, futures, and options allow firms better opportunities to manage interest rate risk. These alternatives are most readily available and used by financial institutions such as banks and the Farm Credit System.

Bonds

In addition to obtaining funds from commercial lenders such as banks, larger companies frequently obtain debt funds by issuing bonds. In essence, a bond is simply a promise by the issuing company that it will pay interest during the specified length or maturity of the bond and repay to the bondholder the face value of the bond instrument at its maturity. Bonds are generally tradable and may trade at a premium or discount to face value depending on whether interest rates are higher or lower, respectively, than the fixed rate on the bond.

One of the significant attributes of bonds is marketability, since this provides liquidity and flexibility so that the original buyer can sell bonds or debt instruments if circumstances change so that bonds no longer fit in the investment portfolio. Debt instruments of smaller companies are much more difficult to market, so bonds may be a less viable mechanism for such firms to obtain debt financing.

Just as there are many types of loans, there are also many types of bonds. And some of these variations include concepts that can apply to loan arrangements as well.

Convertible Bonds

In some cases, a firm may not use conventional bonds to raise funds, but issue convertible bonds. Convertible bonds are debt instruments that can be exchanged for shares of common stock or an equity interest in the company. The conversion arrangement may be at a specific price or value of the equity interest, or it may be for a particular number of shares or percentage of equity.

Although convertible bonds are more commonly used with a corporate structure, convertible debt can also be used with a partnership or other business arrangement.

The key concept is the conversion of a debt instrument with a specific interest rate to an equity interest that has only a residual claim on earnings and assets.

Convertible bonds or debt typically carry a lower interest rate because of the value of the conversion privilege. Thus, convertible debt can result in lower interest costs for the firm. Some firms also use convertible debt because the equity market is not providing the value they perceive is desirable for their stock at the current time, but is expected to do so in the future. One should recognize that if convertible debt is, in fact, converted to equity, the ownership of the firm will be changed and earnings per share or equity interest will be diluted or reduced because of the increased equity investment.

Callable Bonds

Callability refers to the ability to pay off a debt obligation prior to its maturity at the option of the issuer of debt. Such an arrangement may be used when a firm issues bonds to obtain funds, but wants to have the flexibility to retire those bonds if interest rates decline and funds can be obtained at a lower rate elsewhere or financial improvements at a later time mean that these debt funds aren't needed. In such an instance, the bonds would be "called" or paid off prior to their maturity.

Callable bonds typically carry a slightly higher interest rate to compensate the buyer for increased risk of the call option being exercised when interest rates decline. They provide flexibility in adjusting the debt load and structure of the business to changes in market interest rates and/or the financial condition of the business.

"Zero Coupon" Bonds

"Zero coupon" or deep discount bonds are a special kind of debt instrument where the interest payments are not made on a regular basis but instead are "accumulated" and paid at the date of bond or debt maturity. Because of the delay in interest payments, such bonds will sell or be valued at issuance at a much lower price than a bond which pays interest on a periodic basis—thus the name "deep discount."

In essence, this arrangement is equivalent to borrowing a sum of money today and, rather than making annual or periodic interest payments, accumulating those payments over time (compounded) and paying compounded interest plus the original principal amount at the maturity of the loan. Such a loan arrangement has the advantage of reducing the annual debt-servicing requirement during the life of the loan, but it clearly increases the expected cash flow drain at maturity.

Some Final Observations

The options and alternatives available to finance and organize farm and agribusiness firms are much broader than traditionally has been perceived (Table 2, p. 6). Combining various organizing and financing options into a complex structure that matches the business and personal objectives of the owner is likely preferred to the more traditional (and relatively simple) organizational/financial structure used in most farm and agribusiness firms (i.e., the sole proprietorship using internally generated equity and bank or other debt). An example structure is summarized in Appendix 1, p. 19.

If the dominant concern in the choice of the financial/organizational structure is ownership/control/autonomy, then the options available are severely limited. Many of the more flexible financing and organizing options increase the interdependence and reduce autonomy and control within the firm. Historically, autonomy and control appear to have been the dominant concern in much of Midwest agriculture.

A more diversified financial/organizational structure will typically (but not always) increase the flexibility and reduce the financial risk of the business venture. In fact, diversified financing is an alternative and possibly more effective strategy to reduce risk in many farm and agribusiness firms than diversifying in production enterprises, product lines, and/or business ventures. Consideration of a broader set of options for financing and organizing the business may provide the opportunity to reduce the cost of capital (i.e., the cost of financing) and most likely will increase the availability of funds to finance growth and expansion. Developing an appropriate organizational/financial structure requires skills in understanding financial markets, instruments, and options, legal arrangements, financial analysis, and negotiation. The choice of the right organizational/financial structure is an important strategic decision that can have a significant impact on the cost, competitive position, and survivability of the business.

Appendix 1
A Simple Example:
Various Financial/
Organizational
Options Combined
in a Single Farming
Operation

This example illustrates how the various organizational and financing options might be combined in a single farming operation.

1. Subchapter S operating corporation with parents that own machinery, equipment and livestock.
2. Production of 10,000 turkeys with a product specification contract with the processor.
3. Production of 80 acres of seed corn on contract with a seed company.
4. Custom farm 160 acres for Williams family.
5. Custom harvest 120 acres for Everly family.
6. Crop share rent 320 acres from uncle.
7. Cash rent 120 acres from a Chicago investor.
8. Custom feed 300 head of cattle with brother in Nebraska feedlot.
9. Operating debt of \$235,000 from local commercial bank on a variable rate.
10. Land debt with FCS at fixed rate for three years for \$168,000.
11. Sole proprietorship ownership of 400 acres of farmland.
12. Installment contract purchase of home farm from parents-fixed rate contract with five more years plus balloon-balance of \$185,000.
13. Initial equity contribution from savings of \$40,000.
14. Retained earnings from farming operation of \$752,000.
15. Contributed equity of \$30,000 from spouse's inheritance.
16. Tractor leased from machinery company with option to buy in three years.
17. Joint ownership of a combine with uncle for extra harvesting capacity.
18. Membership in a breeding stock cooperative to produce F1 gilts.
19. Membership in a purchasing cooperative to acquire inputs for the hog enterprise (premix, feed, feeders, etc.) at quantity discounts.
20. Partnership with a brother in a grain and livestock trucking company.

North Central Regional Extension Publications are subject to peer review and prepared as a part of the Cooperative Extension Service activities of the thirteen land grant universities of the 12 North Central States, in cooperation with the Cooperative State Research, Education, and Extension Service - U.S. Department of Agriculture, Washington, D.C. The following universities cooperated in making this publication available.

University of Illinois
Ag. Publications Office
67 Mumford Hall
Urbana IL 61801
(217) 333-2007

Michigan State University
Bulletin Office
10B Ag. Hall
East Lansing MI 48824-1039
(517) 355-0240

North Dakota State University
Extension Communications
Box 5655 Morrill Hall
Fargo ND 58105
(701) 231-7882

* Purdue University
Media Distribution Center
301 S. Second Street
Lafayette IN 47901-1232
(317) 494-6794

University of Minnesota
Distribution Center
3 Coffey Hall
1420 Eckles Ave.
St. Paul MN 55108-6064
(612) 625-8173

Ohio State University
Publications Office
216 Kottman Hall
2021 Coffey Rd.
Columbus OH (614) 292-9607

Iowa State University
Extension Distribution Center
Printing & Pub. Building
Ames IA 50011-3171
(515) 294-5247

Extension Publications
2800 Maguire
University of Missouri
Columbia MO 65211-0001
(314) 882-7216

South Dakota State University
Ag. Comm. Center
Box 2231
Brookings SD 57007-0892
(605) 688-5628

Kansas State University
Distribution Center
Umberger Hall
Manhattan Kansas 66506-3400
(913) 532-5830

University of Nebraska
IANR
Comm. and Computing Services
Lincoln NE 68583-0918
(402) 472-3023

* Publishing University

For copies of this and other North Central Regional Extension Publications, write to: Publications Office, Cooperative Extension Service, in care of the university listed above for your state. If they do not have copies or your university is not listed above, contact the publishing state as marked by the asterisk.

Programs and activities of the Cooperative Extension Service are available to all potential clients without regard to race, color, national origin, age, sex, religion or disability.

In cooperation with the North Central Region Educational Materials Project

NEW 4/95

Issued in furtherance of Cooperative Extension work, Acts of Congress of May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture and Cooperative Extension Services of Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, and Wisconsin. H. A. Wadsworth, Director, Purdue University Cooperative Extension Service, West Lafayette IN.

